

ZODARIELLUM SERRAFERUM SP. NOV., A NEW SPIDER SPECIES (ARANAEAE, ZODARIIDAE) FROM HAINAN ISLAND, CHINA

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Abstract *Zodariellum serraferum* sp. nov. , a new spider species of the family Zodariidae , collected from Hainan Island , south of China , is described and illustrated. All types are deposited in the Institute of Zoology , Chinese Academy of Sciences , Beijing (IZCAS) .

Key words Morphology , zodariid , new species , rainforest , China.

1 Introduction

Zodariidae is a medium-sized family represented by 74 genera and 868 species in the world (Platnick , 2008) . It is ecribellate , entelegyne and typically ground-living spiders. They are usually adaptive to inhabit rainforests and some may reach temperate region. Since Andreeva & Tyschchenko (1968) established the genus *Zodariellum* , 22 species have been described , and two of which , *Z. chaoyangense* (Zhu & Zhu , 1983) and *Z. furcum* (Zhu , 1988) , were reported from northern China.

After examination of specimens collected from Hainan Island , China , a new zodariid , *Zodariellum serraferum* sp. nov. , was recognized. Detailed description and illustrations are also given in the current paper.

2 Materials and methods

Specimens were examined and measured using an SZX12-Olympus stereomicroscope. Further details were studied under an Olympus BX51 compound microscope. All drawings were made using a drawing apparatus attached to Olympus BX51 compound microscope , and then inked on ink jet plotter paper. Male palpi and female genitalia were examined and illustrated after they were dissected from the spider s bodies. Vulvae of female were removed and treated in lactic acid before illustration. All type specimens reserved in 80 % ethanol solution. Measurements are made under an Olympus BX51 compound microscope and given in millimeters (mm) .

Only holotype and a paratype are measured. Leg measurements are shown as: total length (femur , patella , tibia , metatarsus , tarsus) . The type specimens used in this study are deposited in the Institute of Zoology , Chinese Academy of Sciences (IZCAS) , Beijing , China.

Abbreviations. AER-anterior eye row ; ALE-anterior lateral eye ; AME-anterior median eye ; PER-

posterior eye row ; PLE-posterior lateral eye ; PME-posterior median eye.

3 Taxonomy

Zodariellum Andreeva & Tyschchenko , 1968

Zodariellum serraferum sp. nov. (Figs. 1-7)

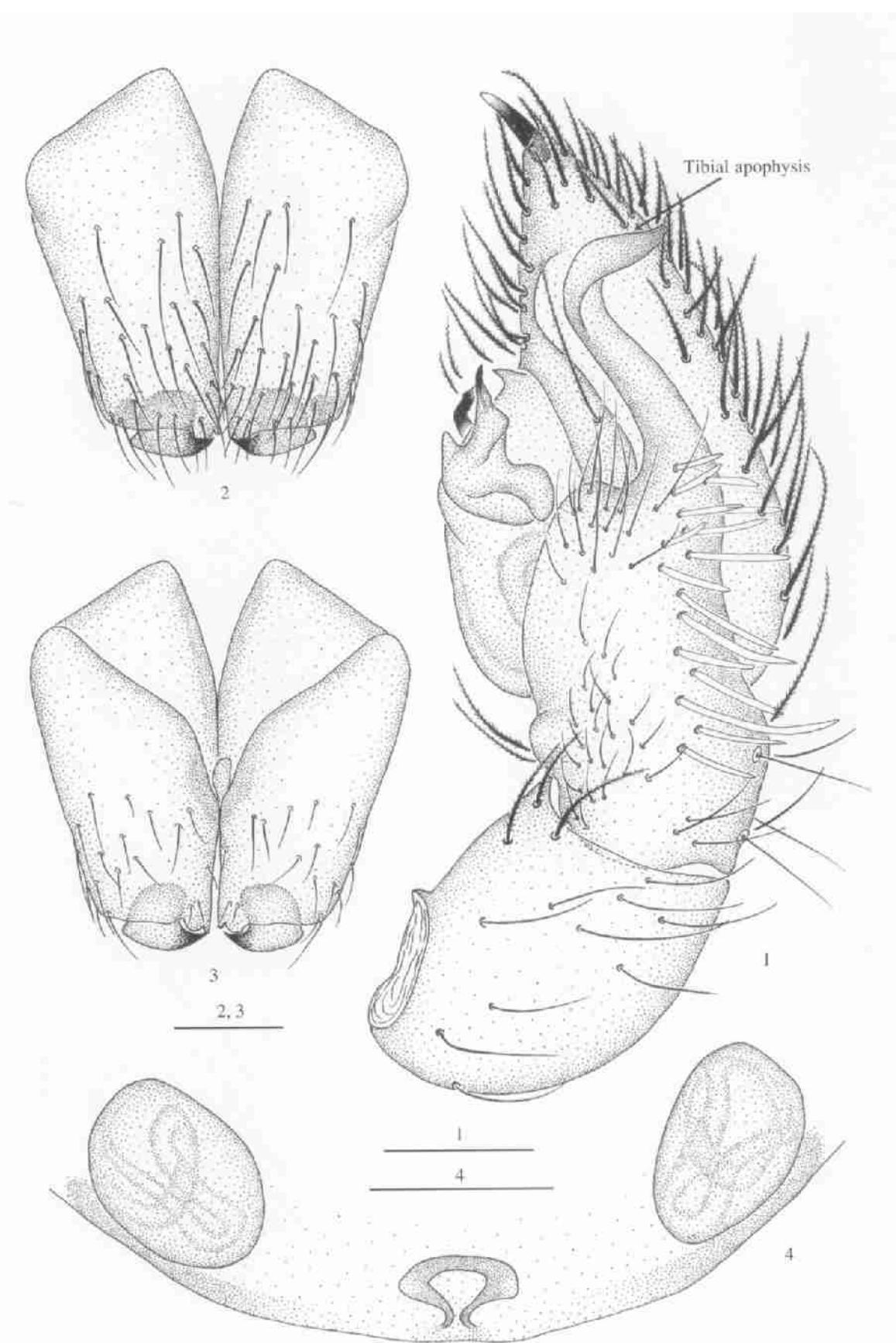
Diagnosis. The new species is similar to *Zodariellum chaoyangense* (Zhu & Zhu , 1983) , but can be distinguished by the distinct shape of tibial apophysis , the presence of a cluster of spatulate hairs on retrolateral tibia (absent in the latter) , the presence of four strong serrated setae near apex of prolatateral cymbium (absent in the latter) , the shorter embolus (longer in the latter) , the longer and non-reflexed tibial apophysis (shorter and reflexed in the latter) , the “ ”-shaped and obviously sclerotized copulatory opening (pentagonal and non-sclerotized in the latter) , and the egg-shaped , widely separated spermathecae (round and near copulatory opening in the latter) .

Description. Male holotype. Total length 1.86. Carapace 0.92 length , 0.68 width. Sternum 0.56 length , 0.46 width. Abdomen 0.80 length , 0.54 width. Carapace elongated pear-like , anterior yellow , posterior pale yellow. Eight eyes , AME > ALE > PLE > PME ; AER slighter procurved than PER ; anterior eye area black. Chelicerae brownish yellow , stout , with condyles at bilateral bases ; fang small and exaggerated basal swollen , with a tooth at fang furrow margin. Endites almost equal to chelicerae in length. Labium brown yellow , triangular , no fused to sternum. Sternum pale yellow , smooth , posterior margin acute. Legs yellow , covered with dense plumose short hairs , spine absent. Leg measurements : 3.22 (0.82 , 0.32 , 0.72 , 0.78 , 0.58) ; 2.78 (0.70 , 0.30 , 0.56 , 0.70 , 0.52) ; 2.68 (0.68 , 0.30 , 0.50 , 0.74 , 0.46) ; 3.96 (1.00 , 0.34 , 0.92 , 1.10 , 0.60) . Leg formula : - - - .

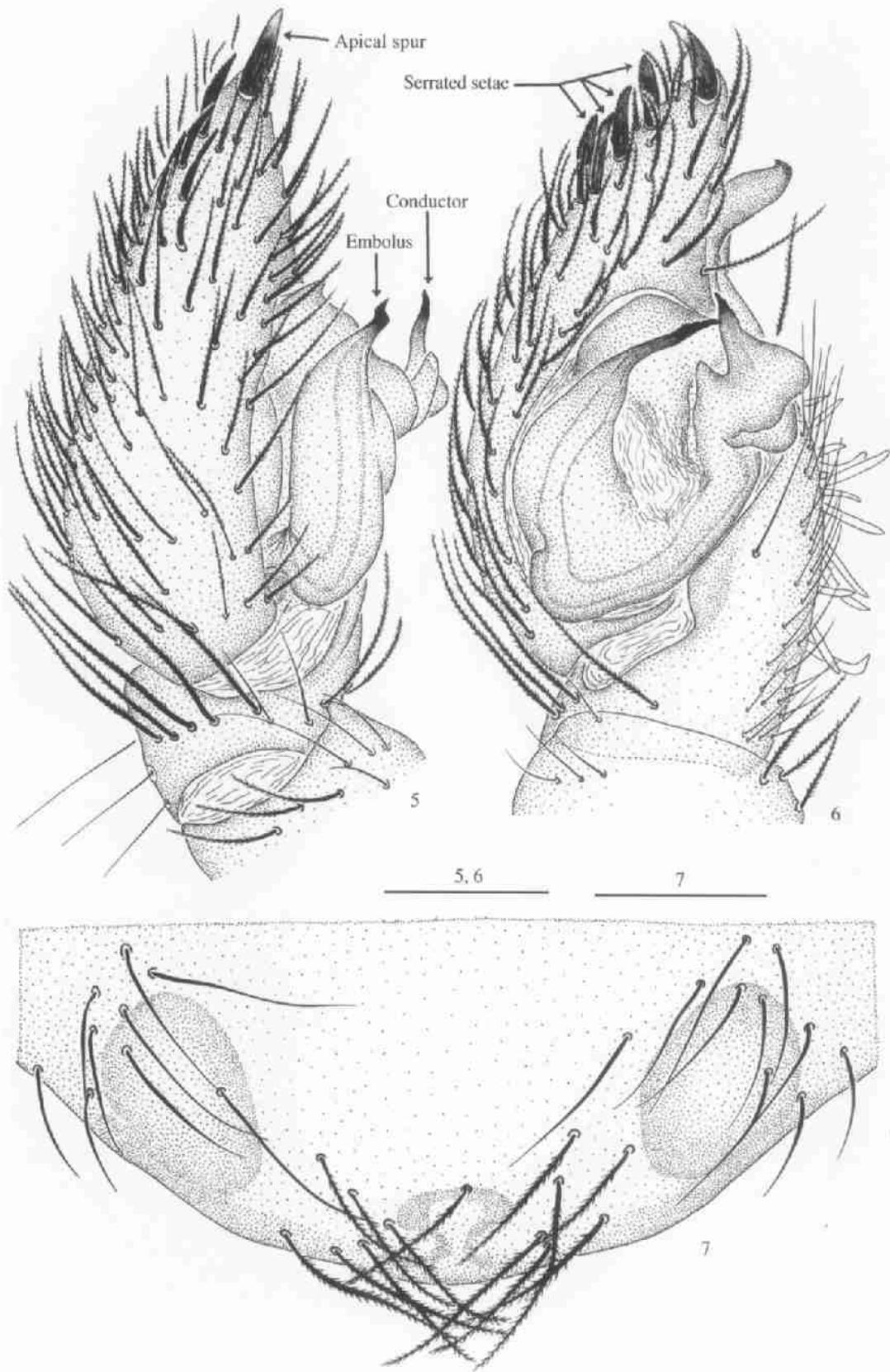
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Figs. 1-4. *Zodariellum serraferum* sp. nov. 1. Male left palp, retrolateral view. 2. Male chelicerae, anterior view. 3. Same, posterior view. 4. Female epigynum, dorsal view. Scale bars = 0.1 mm.



Figs. 5-7. *Zodariellum serraferum* sp. nov. 5. Male left palp, prolateral view. 6. Same, ventral view. 7. Female epigynum, ventral view. Scale bars = 0.1 mm.

Abdomen ovoid, dorsum black and venter pale yellow, covered dense plumose short hairs. A row of spatulate short setae ahead pale spinnerets. Anterior spinnerets largest and adjacent.

Palp relatively small; femur equal to 1.5 times patella in length; patella special swollen; tibia basal broad, a long retrolateral tibial apophysis curved at distal end, with three dorsal trichobothria and a cluster of retrolateral spatulate hairs; cymbium covered with dense plumose hairs, a apical spur and four near distal serrated setae. Embolus base broad and sharp at distal end, distinct sclerotized, reach to behind conductor, tegulum wide and connected with conductor.

Female paratype. Total length 2.42. Carapace 1.06 length, 0.78 width. Sternum 0.66 length, 0.56 width. Abdomen 1.30 length, 0.92 width. Carapace, chelicerae, sternum and legs same coloration and ornaments as in male. Body size larger than in male. Leg measurements: 3.24 (0.86, 0.36, 0.72, 0.76, 0.54); 2.90 (0.74, 0.34, 0.54, 0.80, 0.48); 2.88 (0.78, 0.34, 0.54, 0.72, 0.50); 4.30 (1.10, 0.40, 0.96, 1.24, 0.60). Leg formula: - - -. Abdomen ovoid, dorsum reddish brown, lateral yellow and venter brownish yellow.

Epigynial shield bears plumose hairs at posterior margin. At posterior center copulatory opening “-”- shaped, slightly sclerotized. Spermatheca egg-like,

heavyish ossified, each located at bilateral of copulatory opening, obviously apart a distance, its base fused to epigynial postromargin.

Type material. Male holotype from Hainan Datian National Nature Reserve (19°06' N, 108°47' E), Datian Town, Dongfang City, Hainan Province, China, 22 July 2007, collected by LI Shu-Qiang and WANG Chun-Xia. Paratypes 1 male and 18 females, same data as in holotype.

Etymology. The specific epithet derives from Latin “serrate” = serrate” and “-ferum = setaceous”, refers to the presence of strong serrate setae near cymbial apex of male palp.

Distribution. China (Hainan).

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中国海南一拟平腹蛛新种记述（蜘蛛目，拟平腹蛛科）

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摘要 记述了采自中国海南岛的拟平腹蛛属1新种，锯毛拟平腹蛛 *Zodariellum serraferum* sp. nov.，并提供了详细的描述。模式标本保存在中国科学院动物研究所。

锯毛拟平腹蛛，新种 *Zodariellum serraferum* sp. nov. (图1~7)

正模 1, 副模 1, 18, 海南省东方市大田镇坡鹿自然保护区 (19°06' N, 108°47' E), 2007年7月22日, 王春霞和李枢强采集; 副模2, 7, 采集信息同正模。

关键词 分类学, 拟平腹蛛, 新种, 雨林, 中国.

中图分类号 Q959.226

新种与产自辽宁的朝阳拟平腹蛛 *Zodariellum chaoyangense* (Zhu & Zhu, 1983) 相近, 但区别在于: 前者胫节突较长, 横向外弯, 后者下弯后呈倒钩上弯, 且较短; 前者胫节后侧面具1簇竹片状毛, 跗舟前侧近顶端具4根强壮的锯齿状刚毛, 插入器短, 后者胫节无竹片状毛, 跗舟近顶端锯齿状刚毛缺失; 前者交配孔呈“ ”型, 骨化明显, 后者交配孔为五边形, 无明显骨化; 前者纳精囊卵形, 且相隔甚远, 后者呈球形, 位于交配孔两侧。

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